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ABSTRACT

This report describes an investigation to determine the frequency and consistency with which elementary school children are identified by their teachers, over a period of years, as presenting behavior problems within the school setting. A large sample of urban white children, measured on a number of school-related variables (SES, IQ, school readiness, language development and school achievement), were followed through the course of their elementary school years. One or more teacher ratings of behavior were obtained for 1,570 children over a 7-year period. Subjects with at least three ratings were divided into three groups: No Problem, Behavior Problem, and Inconsistent Classifications. Resulting data include: (1) an analysis of behavior problems by sex and grade level; (2) cumulative rating totals; and (3) a comparison of the three subject groups on the school related variables. Over half of all study subjects were identified as problems by some teachers but not by others, and about 3% of the population were identified as problems by each of six consecutive teachers. These and other findings are discussed. (BF)

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A LONGITUDINAL SURVEY OF SCHOOL BEHAVIOR PROBLEMS

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A LONGITUDINAL SURVEY OF SCHOOL BEHAVIOR PROBLEMS

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The purpose of the present investigation is to determine the frequency and consistency with which children, followed over a period of years, are identified by their teachers as presenting behavior problems within the school setting.

Available estimates of the incidence of behavior problems among school-age children vary from 1.5% (Metz, 1973; USOE-BEH, 1975) to 30% or more (Cowen, Zax, Izzo & Trost, 1966; Glidewell & Swallow, 1969), depending upon a variety of factors including the age and demographic characteristics of the population surveyed, the type and severity of the problems identified, and the perspective of the observers.

The single most extensive survey of behavior problems among school-age children, a stratified probability sample of the United States population in which teacher ratings were obtained for 7119 noninstitutionalized children, ages six to eleven, found that approximately 20% of the total sample (27% of the boys and 13% of the girls) exhibited some form of excessively aggressive behavior in school (Roberts & Baird, 1972).

The incidence of behavior problems of sufficient severity to warrant some form of psychiatric referral or treatment ranges from 10% reported as requiring "immediate clinical attention" (Glidewell & Swallow, 1969) to 22% with emotional ill-health of an "educationally handicapping nature (Stennett,1966), while the incidence of teacher identified behavior problems for which no special diagnostic or treatment services are currently required falls in the range from approximately 16% (McCaffrey &

Cummings, 1969; Rubin & Balow, 1971) to 64% (Kellam & Schiff, 1967).

The lowest estimates of the incidence of maladjustment come from the U.S. Office of Education and are based primarily on statistical probabilities or upon mail surveys of school administrators who are asked to estimate the number of pupils they believe to be in need of special educational assistance. The higher incidence figures come from empirical research investigations. Those who have investigated this topic through contact with parents, teachers, and children consistently report incidence figures of school behavior problems which are anywhere from ten to thirty times in excess of the USOE estimates (Eaton, et al, 1956; Roberts & Baird, 1972; Rubin & Balow, 1971).

Major difficulties exist with the interpretation of available prevalence data due in part to the methodologies employed in their collection and in part to the definitional inconsistencies which abound in the field of behavior disorders. Information regarding the incidence of behavior problems has typically been derived from cross-sectional surveys conducted at a single point in time (Lapouse & Monk, 1958; Roberts & Baird, 1972; Tuddenham, 1974; Werry & Quay, 1958) without considering the persistence of such problems over time.

Incidence figures reported in cross-sectional studies have shown a remarkable consistency across age levels. A survey of children in kindergarten through grade seven found that approximately 31% of the boys and 17% of the girls were identifed as presenting some form of overly aggressive behavior with no age-related trends in identification of these problems (Roberts & Baird, 1972). In a study of 5 to 8 year old children, Werry and Quay (1958) found no age differences in the incidence of the majority of behavior

symptoms which they investigated including "Destructiveness," which was present in 16% of the boys and 5% of the girls, and "Hyperactivity," present in 30% of the boys and 14% of the girls. Tuddenham, Brooks, & Milkovich (1974) failed to find age-related patterns in their analysis of mothers' reports of the behavior of 9 to 11 year old children. Such cross-sectional surveys seem implicitly to assume that behavior problems are constant over time, and that the same children would be identified if repeated surveys were made.

Even those studies which have followed the same children over time present major methodological problems. Some longitudinal studies have reported incidence rates at different ages or correlations between behavior ratings at different ages for their total samples with no indication of the extent to which these problems persisted in individual children (Kagan & Moss, 1962; MacFarlane, Honzik & Allen, 1962). Other studies have examined the consistency of problem behavior in individual children over time only for those subjects who were found to have behavior problems upon initial examination. The total incidence of behavior problems was thereby underestimated since some of those originally diagnosed as problems were later classified as normal while those originally classified as normal were never reassessed to identify the later emergence of problem behavior (Huessy, Marshall & Gendron, 1973).

When subjects identified as displaying problem behaviors have been examined on repeated occasions over an extended period of time, changes to classification as normal have been interpreted either as responses to therapeutic intervention or, in the absence of any identifiable treatment, as "spontaneous remission" of symptoms. Thus various authors

(Glavin, 1972; McCaffrey & Cummings, 1969; Shepherd, et al, 1966) have emphasized the transient nature of a high proportion of childhood behavior disorders.

At least equally viable as an interpretation of changes in classification over time is that the individuals who are called upon to identify behavior problems vary widely in their standards and frames of reference so that changes in the classification of specific individuals may reflect the different perspectives of the raters as well as changes in the behavior of those being rated.

The present study is an investigation of the consistency of judgments made by classroom teachers over periods of two to six years regarding both the presence and the absence of identifiable problem behaviors in a large sample of elementary school children who are essentially representative of urban white school children on such characteristics as intelligence and socioeconomic status.

Procedures

Sample

Subjects were all participants in the Educational Follow-Up Project (EFP), a prospective longitudinal investigation of the educational and behavioral sequelae of perinatal and early childhood conditions and events. The EFP population consists of 1613 subjects born at the University of Minnesota Hospitals between 1960 and 1964 who were also participants in the Minnesota section of the nation-wide Collaborative Project (Berendes, 1966).[1] Although the sample was not initially drawn in

[1] Mothers of the children had received prenatal care and delivered their offspring at the University of Minnesota Hospitals as participants in the Collaborative Perinatal Project, a prospective investigation of the antecedents of neurologically related childhood disorders. All pregnant women who came for care during the specified period were encouraged to participate in the study.

a random fashion from the general population, examination of sample characteristics along the dimensions of IQ, SES, neonatal neurological abnormalities, proportion of birth anomolies, pre-school language development, school readiness, and school achievement all attest to the essential normality of the study sample on these variables (Ireton, Thwing, & Gravem, 1970; Myrianthopoulos & French, 1968; Rubin, 1972).

Measures[2]

Teacher Questionnaire - Each year classroom teachers of study subjects are asked to report, via a mail questionnaire, information regarding general school progress, retention, special class placement, and receipt of special services such as remedial reading, speech therapy, and psychological evaluation. Teachers are also asked to indicate whether or not the specified child has shown behavior problems. No definition is provided for the term "behavior problem", thus the decision as to what constitutes a problem is left up to the individual teachers. It is recognized that problems so identified will vary depending upon the value systems of the teachers and the nature of particular classroom settings, as well as upon the actual behavior of study subjects (e.g.

[2] Socioeconomic and psychological test data were obtained at the University of Minnesota Hospitals and made available through the cooperation of the staff of the Collaborative Project. Information on school readiness, language development, school progress, and school behavior was obtained as part of the continuing data collection activities of the Educational Follow-Up Project.

a child with moderate acting-out behavior in a classroom of orderly children might be identifed as a behavior problem, while the same child in a setting with more aggressive children might not be so identified.) However, it was assumed for purposes of this investigation, as it has been in earlier research based on this same longitudinal study population, that a child whose teacher believes him to have a problem does indeed have a problem, whether the "true" source lies in his own behavior or in the perceptions of his teacher (Rubin & Balow, 1971).

Socioeconomic level - Socioeconomic Index (SEI) scores were computed for each subject using the U. S. Bureau of Census formula based on parental occupation, education, and family income which yields composite scores on a ten-point scale ranging from 0 to 9.9. The mean for the population of the United States falls in the range between 5.0 and 5.9 (Myrianthopoulos & French, 1968).

Intelligence - The Stanford-Binet (L-M, Short Form) was administered at age four, and the Wechsler Intelligence Scale for Children was administered at age seven.

School Readiness - The Metropolitan Readiness Tests (MRT), designed to measure skills and abilities that contribute to readiness for initial first grade work such as auditory and visual perception, motor coordination, linguistic skills, knowledge of numbers, and ability to attend to and follow directions, was administered at age six prior to entering first grade.

Language development - The Illinois Test of Psycholinguistic Abilities (ITPA) (Experimental Edition, 1961), designed to measure specific aspects of psycholinguistic ability in the areas of encoding, decoding, associating, and sequencing, was administered at age six during the summer immediately preceding entrance to first grade.

School achievement - The Wide Range Achievement Test (WRAT), which measures word pronunciation, spelling, and arithmetic, was administered at age seven.

The Word Meaning, Spelling, and Arithmetic Computation subtests of the Stanford Achievement Test (SAT) were administered at age nine.

Analysis

Although teacher ratings of behavior were not available each year for each child, one or more ratings of behavior were obtained for 1570 subjects (789 boys and 781 girls), comprising 97.3% of the total EFP population, during the seven year period included in this analysis.

All subjects for whom one or more teacher's ratings was available were included in the initial analysis of behavior problems by grade and sex. Those subjects with three or more teacher ratings (N=1366) were then divided into three groups on the basis of all available ratings for each subject: (a) those consistently classified as No Problem (N=554), (b) those with Inconsistent Classifications (N=710), and (c) those consistently classified as Behavior Problems (N=102). Analysis of variance procedures were used to compare those three groups of subjects on a number of school-related variables.

Results

Table 1 about here

At the time these data were analyzed all subjects had completed fifth grade, but the youngest group of subjects (20% of the total sample) had not yet completed sixth grade. Kindergarten behavior ratings were not available for the oldest two groups of study subjects, therefore the number of kindergarten ratings reported in Table 1 is lower than the number of ratings reported at succeeding grade levels. Approximately 35% of the boys and 16% to 20% of the girls were identifed as Behavior Problems at each grade level, with the exception of grade one where the incidence of Behavior Problems among girls reached its highest level, 26.4%.

Table 2 about here

Table 2 presents cumulative totals of behavior problems identified by classroom teachers on the annual survey over periods of two to six years. Each year teacher ratings were obtained for approximately 75% of the total EFP study population of 1613 subjects. Since only 78 subjects had received a teacher rating for each of the seven years from kindergarten through grade six, data in Table 2 are reported only through a total of six ratings. As shown by the totals entered in the final column of Table 2, there were 1451 subjects for whom at least two teacher ratings, 1366 subjects for whom at least three teacher

ratings were obtained, and there were 370 subjects for whom six teacher ratings were obtained.

Approximately 69% to 75% of all study subjects were classified as No Problem on each of the annual teacher surveys. However, only 56% of the 1451 subjects (49% of the boys and 64% of the girls) for whom at least two annual teacher ratings were obtained were classified as "No Problem" by both teachers. Sixteen percent of this group (21% of the boys and 11% of the girls) were classified by both teachers as Behavior Problems while 28% (30% of the boys and 25% of the girls) were inconsistently classified, identified as a Behavior Problem by one but not by the other of the two teachers.

As each annual teacher rating was combined with ratings previously received by each individual subject, it was found that the number of subjects consistently classified either as a Behavior Problem or as No Problem declined. By the time subjects had received three annual teacher ratings the proportion consistently identified as No Problem had decreased to 49%; while only 34% of the group for whom six teacher ratings were available had been consistently classifed in the No Problem category.

Similarly the proportion of subjects classifed as Problems declined from the 25% to 31% reported at each single grade level to 11% identified as Problems on each of their first three teacher ratings to only 3% consistently identified as Problems on all six of the annual teacher ratings.

As consistent classifications of both Problems and No Problems declined, the proportion of subjects with Inconsistent Classifications

necessarily showed a corresponding increase. When two annual teacher ratings had been obtained it was found that 28% of the subjects had been classified once as Problem and once as No Problem. Each additional set of teacher ratings found more children identified as Problems who had never before been so classified and simultaneously found children classified as No Problem who had been classified as Problems by all of their previous teachers. Thus the Inconsistent Classification group increased each year, so that, by the conclusion of the last reported round of data collection it was found that 58% of all subjects (66% of the boys and 50% of the girls) had been classified differently by different teachers.

Table 3 about here

All subjects with three or more teacher ratings of behavior (and for whom measures of socioeconomic status, intelligence, and achievement were available) (N=1378) were included in the analysis reported in Table 3. The consistent No Problem group is comprised of the 554 subjects (204 boys and 350 girls) who were classified as No Problem on all behavior ratings received. The Consistent Problem group is comprised of 102 subjects (75 boys and 31 girls) who were identified as problem on all available behavior ratings, while the Inconsistent Classification group is comprised of 710 subjects (409 boys and 301 girls) who were identified as behavior problems by some teachers and not by others. Approximately half of the girls (51.6%) but less than one-third of the boys (29.7%) were consistently found in the No Problem group, while the proportion of

boys consistently identified as Problems (10.9%) was more than twice as great as the proportion of girls (4.6%) in the same category.

The number of subjects reported in each of the three categories in Table 3 differs from the number reported in these same categories in Table 2 since classifications in Table 2 were reported separately for subjects with 3, 4, 5, and 6 teacher ratings, while in Table 3 all subjects with 3 or more evaluations were grouped together according to the consistency of their ratings.

As shown in Table 3 there were significant differences ($p<.001$) among the three groups of subjects on all measures of intelligence, achievement, SES, and number of special school services received. Subjects with no identified problems, scored higher on measures of SES, intelligence, language development, school readiness, and academic achievement and had fewer referrals for special school services or special school placement. Subjects consistently identified as Problems obtained the least favorable scores on each of these variables.

Over half of all study subjects (51.6%) were identified as problems by some teachers but not by others. Mean scores of subjects in this group fell within the normal range on all available measures of intelligence and achievement with mean IQ scores of 102 on both the Stanford-Binet and the WISC, and mean achievement scores commensurate with actual grade placement at ages seven and nine.

Discussion

Currently there exist wide variations among estimates of the incidence of school behavior problems with empirical investigations reporting much higher incidence figures than those derived from

statistical definitions of "deviancy." The majority of research in this area is based on cross-sectional surveys at a single point in time, while those who have conducted long-term investigations have either followed only those originally identified as problems or have simply conducted cross-sectional studies of the same population at different points in time. Data have not previously been available regarding long-term cumulative incidence rates for school behavior problems.

In the present investigation a large sample of children (N=1582) who are essentially representative of the general population of white urban school age children on educationally relevant variables such as SES, IQ, and academic achievement were followed throughout the course of their elementary school years. The incidence of school behavior problems identified by classroom teachers was relatively constant from kindergarten through grade six with approximately 27% of the sample (19% of the girls and 35% of the boys) at each grade level classified as problems. The cumulative incidence rate for behavior problems was much higher than the annual rate. More than half (55%) of all subjects who received three teacher ratings were classified as a Behavior Problem by at least one teacher, while 61% of all subjects (69% of the boys and 53% of the girls) who received six teacher ratings were considered a behavior problem by at least one teacher. Thus it becomes apparent that the manifestation of behavior which at least one teacher is willing to classify as a problem is the norm rather than the exception for elementary school children.

These findings are not inconsistent with the findings of other empirical investigations (Roberts & Baird, 1972) but they contrast sharply with the 2% incidence figure for school behavior problems currently employed by the USOE.

While it would seem reasonable to conclude that the 39% of the study population who were consistently rated as No-Problem on each of the six annual teacher ratings were indeed relatively free of observable behavior problems and that the 3% of the population who were identified as Problems by each of six consecutive teachers did manifest behavior which would likely warrant some type of intervention, the major issue raised is how to interpret the findings that 61% of the total sample were perceived as problems by some teachers but not by others. Their existence in such large numbers runs counter to the assumption that children's behavior problems, however defined, reside within the child and can be reliably recognized by sufficiently informed and astute observers.

Among possible alternative interpretations of these findings the most obvious are: (a) children's behavior problems are so highly transient in nature that each year new problems surface while previously identified problems disappear at approximately the same rate; (b) children's behaviors remain relatively constant but teachers vary widely in their observational powers, which leads to differing perceptions of behavior; (c) children's behaviors remain relatively constant over time and teachers are reliable observers of behavior, but they vary widely in their judgments as to what behavior constitutes a "problem;" or (d) some combination of the above.

When comparisons were made between those subjects who were consistently classified as behavior problems, those occasionally classified as behavior problems, and those who were never so classified, it was found that the three groups differed significantly on all available measures, with the No-Problem group receiving the most favorable scores and those consistently identified as Problems obtaining the least favorable scores. Over half the sample (52%) were inconsistently or occasionally identified as behavior problems. Subjects in this category had mean scores near the middle of the normal range on standardized measures of intelligence, SES, and achievement.

If one takes the position that any child identified by any teacher as a behavior problem merits at least some type of further diagnosis, then approximately 60% of the elementary school population would be in need of some form of special attention. Thus the definition of "behavior problems" once again becomes an issue, with the emphasis upon the frame of reference of the classroom teacher. That the majority of children are perceived as presenting behavior problems by at least one teacher during the course of their elementary school careers seems more informative about the tolerance limits of teachers than about the inherent characteristics of children.

One might hypothesize that given sufficient time and sufficient numbers of different teachers each with his or her own set of expectations and definitions of "normal" behavior, no child would be consistently exempt from classification as a problem.

While it may be argued that a more clearly specified definition of "behavior problems" on the part of the investigators would serve to

reduce the number of identified problems, the rationale for the procedure used in the present investigation is based on the fact that classroom teachers, typically acting on the basis of their own judgment as to what constitutes problem behavior, are the most frequent initiators of referrals for special services. Therefore it seems appropriate for survey purposes to allow teachers to define for themselves what constitutes problem behavior. The purpose of this study was to determine the incidence of behavior problems as seen from the perspective of the classroom teacher, rather than to determine what behaviors teachers ought to perceive as problems.

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Table 1

Teacher Identified Behavior Problems

by Sex and Grade Level

(N = 1570)

Grade	No Problem		Problem		
	N	%	N	%	Total
Kindergarten					
M	228	63.9	129	36.1	357
F	290	80.0	72	19.9	362
Total	518	72.0	201	28.0	719
First Grade					
M	431	64.0	242	36.0	673
F	475	73.8	170	26.4	644
Total	906	68.7	412	31.3	1318
Second Grade					
M	387	65.3	207	34.8	594
F	481	80.4	117	19.6	598
Total	868	72.8	324	27.0	1192
Third Grade					
M	357	63.3	207	36.7	564
F	427	82.8	89	17.2	516
Total	784	72.6	296	27.4	1080
Fourth Grade					
M	373	66.0	192	34.0	565
F	469	83.6	92	16.4	561
Total	842	74.8	284	25.5	1126
Fifth Grade					
M	336	65.8	175	34.2	511
F	432	83.7	84	16.3	516
Total	768	74.8	259	25.2	1027
Sixth Grade					
M	270	64.7	147	35.3	417
F	307	79.3	80	20.7	387
Total	577	71.8	227	28.2	804

Table 2

Cumulative Teacher Identified Behavior Problems Over

Periods of Two to Six Years

No. of Annual Teacher Ratings		Consistently Classified as No Problem		Inconsistent Classification (Problem and No Problem)		Consistently Classified as Problem		
		N	%	N	%	N	%	Total
Two[1]	M	353	49	219	30	152	21	724
	F	466	64	182	25	79	11	727
	Total	819	56	401	28	231	16	1451
Three[2]	M	271	40	311	45	102	15	684
	F	397	58	241	35	44	7	682
	Total	668	49	552	40	146	11	1366
Four	M	190	33	322	55	69	12	581
	F	315	55	233	41	21	4	569
	Total	505	44	555	48	90	8	1150
Five	M	126	32	236	60	34	8	396
	F	205	52	179	45	10	3	394
	Total	331	42	415	53	44	5	790
Six	M	59	31	124	66	5	3	188
	F	86	47	90	50	6	3	182
	Total	145	39	214	58	11	3	370

[1]Results of the first two ratings obtained for all S's with two or more teacher ratings.

[2]Results of the first three ratings for all S's with three or more teacher ratings.

Table 3

Mean Scores of Problem, No-Problem, and Inconsistant Problem Subjects on Measures of SES, IQ, School Readiness, Language Development, School Achievement, Retentions, and Number of Special Referrals

		Total	No Identified Problems	Inconsistently Identified Problems	Consistently Identified Problems	
N	Male	688 (100%)	204 (29.7%)	409 (59.4%)	75 (10.9%)	
	Female	678 (100%)	350 (51.6%)	301 (44.4%)	31 (4.6%)	
	Total	1366 (100%)	554 (40.6%)	710 (52.0%)	102 (7.5%)	
Measures		$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$	P
SEI		5.3	5.7	5.1	4.5	.001
Stanford-Binet IQ		104.2	108.5	102.2	94.9	.001
WISC IQ		103.7	107.2	102.4	93.0	.001
MRT[1]		56.3	62.2	53.3	46.0	.001
ITPA[2]		74.2	77.1	72.8	68.3	.001
WRAT[3]						
	Reading	36.0	38.9	34.9	27.5	.001
	Spelling	24.6	26.2	24.0	20.5	.001
	Arithmetic	20.8	21.5	20.6	18.1	.001
SAT[4]						
	Word Meaning	23.3	25.7	22.2	18.4	.001
	Spelling	16.2	18.9	15.0	10.8	.001
	Arithmetic	25.9	28.5	24.9	18.8	.001
Retentions[5]		.16	.07	.17	.30	.001
Special Services[6]		.89	.45	1.09	1.93	.001

[1] Metropolitan Readiness Test raw scores

[2] Illinois Test of Psycholinguistic Abilities language age scores

[3] Wide Range Achievement Test raw scores

[4] Stanford Achievement Test raw scores

[5] Number of subjects retained through grade 6

[6] Number of special services received through grade 6